CASE REPORT JSLS

Laparoscopic Retrieval of Intrauterine Device Perforating the Sigmoid Colon

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ABSTRACT

Introduction: The intrauterine device (IUD) is a well-tolerated, widely used contraceptive. A major but infrequent complication of the IUD is perforation of the uterus or cervix and migration of the device into the abdomen. Our case of laparoscopic retrieval of an IUD perforating the sigmoid colon illustrates this rare complication.

Methods: A 36-year-old woman with a history of IUD placement 4 years earlier presented with complaints of abdominal pain and bright red blood per rectum. She had conceived 9 months after IUD placement and suffered a spontaneous abortion requiring an evacuation of the retained products of conception. At presentation, she was afebrile with normal vital signs. Physical examination was significant for tenderness to palpation over the left lower quadrant.

Results: Computed tomography (CT) scans of the abdomen and pelvis showed a foreign body through the wall of the uterus and entering the colon. Colonoscopy revealed an IUD penetrating the sigmoid wall, and multiple failed attempts were made to remove the IUD colonoscopically. Diagnostic laparoscopy was performed that revealed an IUD perforating the uterus and entering the sigmoid. The IUD was manipulated free and removed, and a suture closed the sigmoid defect. The patient was discharged home on the first postoperative day without complication.

Conclusions: The IUD is one of the most effective, safe, and economic contraceptive methods. Uterine perforation and intraperitoneal translocation is an unusual complication of an IUD. Perforation of hollow viscous is likely even less common. Confirmation of a "missing" IUD is mandatory if pregnancy occurs after IUD placement. Removal of a translocated IUD is recommended, and operative laparoscopy is the preferred method.

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INTRODUCTION

The intrauterine device (IUD) is a highly effective, economic, usually well-tolerated, widely used reversible contraceptive. A major but infrequent complication of the IUD is perforation of the uterus or cervix and migration of the device into the retroperitoneum or abdomen. The following case of IUD perforation of the sigmoid colon highlights this rare complication.

CASE REPORT

A 36-year-old woman presented with a 4-year history of epigastric and left abdominal pain with intermittent bright red blood in her stools attributed to hemorrhoids. Her symptoms had worsened over the preceding 8 weeks. The IUD had been placed 4 years prior. She became pregnant 9 months after IUD placement, suffered a spontaneous abortion, and underwent evacuation of retained products of conception. During this procedure, the IUD was not identified. No further radiographic evaluation was performed.

At presentation, she was afebrile with normal vital signs. Her physical examination was significant for tenderness to palpation over the left lower quadrant. Computed tomography (CT) scans of the abdomen and pelvis showed a foreign body through the posterior wall of the uterus and entering the colon **(Figure 1)**. Colonoscopy revealed a yellow foreign body consistent with an IUD penetrating the sigmoid wall with surrounding granulation tissue **(Figure 2)**. Multiple attempts were made to remove the IUD colonoscopically by an experienced endoscopist, but due to its T-shape and dense surrounding inflammation, it could not be removed without significant risk of perforation of the colon wall. After discussing alternative treatment options with the patient, we elected to pursue diagnostic laparoscopy.

During the operation, careful use of cautery and sharp dissection of the inflammatory mass deep in the pelvis

Figure 1. Computed tomographic scan of the abdomen and pelvis showed a foreign body invading the posterior wall of the uterus and entering the colon.

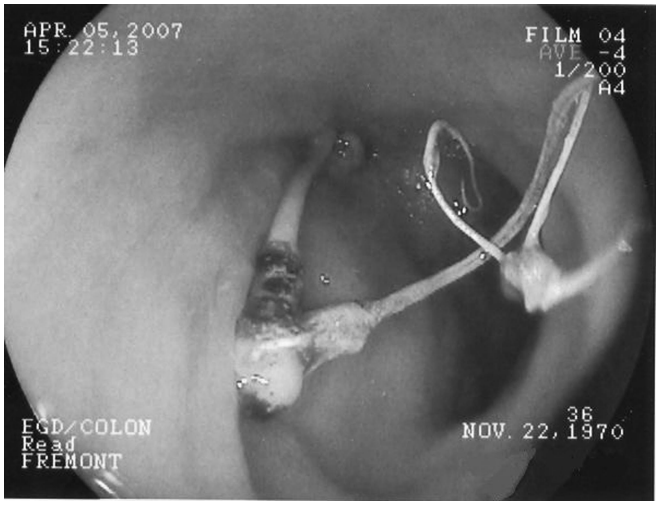

Figure 2. Colonoscopy revealing an IUD penetrating the sigmoid wall with surrounding granulation tissue.

revealed an IUD perforating the uterus and entering the sigmoid **(Figures 3 and 4)**. The IUD was carefully manipulated free and placed in an endobag. A 4–0 Maxon figure-of-eight suture closed the sigmoid defect. The uterine defect did not require repair. Inspection of the remainder of the abdomen and pelvis showed no gross abnormalities. No intraperitoneal spillage of bowel contents occurred. No drain was placed, and no postoperative antibiotic therapy was required. The T-shape of the IUD prevented colonoscopic retrieval and would have likely resulted in a much larger tear in the colon wall or free perforation without surgical control. The uterus abutted the repair of the colon, in effect sealing our repair nicely, which, due to chronic inflammatory changes, required only an absorbable, laparoscopically placed suture. Drainage was avoided in

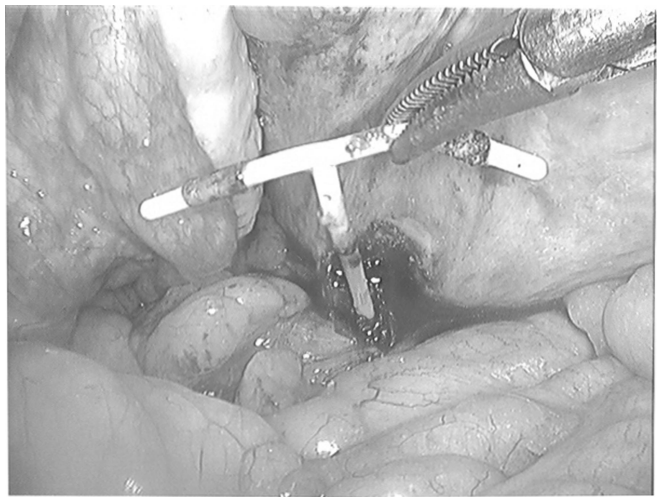

Figure 3. Laparoscopy showing an IUD perforating the uterus and entering the sigmoid.

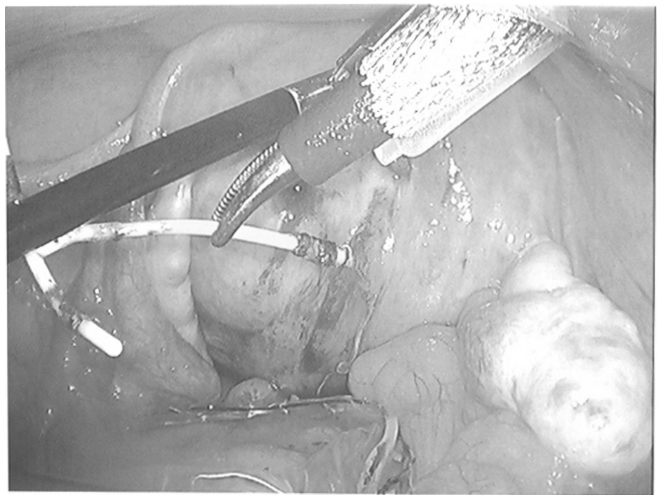

Figure 4. Laparoscopy showing an IUD perforating the uterus and entering the sigmoid.

hopes of preventing a colocutaneous or colouterine fistula. Outpatient antibiotics were not prescribed, because no colonic spillage or free perforation was present. In doing so, we avoided selecting out resistant bacteria or causing a postoperative complication, such as *Clostridium difficile* colitis. The patient recovered uneventfully and was discharged home without complications on the first postoperative day. Her follow-up examination in the outpatient clinic was also without complication.

DISCUSSION

The IUD is one of the most effective, safe, and economic contraceptive methods.[1] Uterine perforation and translo-

cation is an unusual complication of an IUD, occurring in 1.3/1000.[2] Uterine perforation usually occurs during insertion and may be partial, with only a portion of the IUD piercing the uterine wall or cervix, or complete involving adjacent pelvic organs, such as the bladder, appendix, or rectosigmoid. Risk factors for perforation include clinician inexperience in IUD placement, an immobile or retroverted uterus, or insertion postpartum during lactation when the uterine wall is thin.[2,3]

Perforations may be asymptomatic or may cause pelvic pain and abnormal vaginal bleeding. Since perforation may go unrecognized, many clinicians re-examine the patient 6 weeks after IUD insertion. Once perforation has been identified, the patient should be treated with antibiotics as for pelvic inflammatory disease and the IUD removed.[4] Ultrasound or CT may be used to determine the location of a perforated IUD.

Removal of perforated IUDs is recommended due to risk of injury to neighboring organs and associated inflammatory reaction unless the surgical risk is excessive.[5–8] Most frequently, it is found encased in adhesions, adherent to the sigmoid colon or omentum, or freely floating in the cul de sac.[8–14] Operative laparoscopy is the preferred method of removal and can be performed electively in asymptomatic patients. If laparoscopy is unsuccessful due to extensive adhesions, the procedure should be converted to a laparotomy.[3,9]

CONCLUSION

The intrauterine device (IUD) is generally a well-tolerated, effective contraceptive. A serious but infrequent complication of the IUD is perforation of the uterus and migration of the device into the abdominal cavity or adjacent organs. If pregnancy occurs after IUD placement, clinicians should confirm the presence and location of the IUD with radiographs of the abdomen and pelvis and subsequent workup as indicated by symptoms. Endoscopy may be both informative and therapeutic. Computed tomography often aids in operative planning. Removal of a translocated IUD is recommended and operative laparoscopy is the preferred method.

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